

PX-Series



# Precision Magnet Power Supply

10ppm Bipolar/Unipolar



## Features

- Exceptionally high stability level, 10 ppm, also in bipolar operation
- High performance bipolar (4Q) or unipolar (2Q) power supply series, with modular structure allowing customized configurations from 250 A up to 3000 A
- Operation with wide range of loads
- Bandwidth of 10 kHz
- Low ripple and noise
- Due to the topology selected, no polarity switch is needed in bipolar mode and therefore smooth passing through zero is achieved
- Ramp response for different loads tuned from a PC based program
- Air cooled, with optional water cooled zero heat load solution

## Output performance

Output current bipolar max     $\pm 250\text{A} \dots \pm 1500\text{A}$   
 Output current unipolar max     $500\text{A} \dots 3000\text{A}$

Output voltage max                 $\pm 350\text{V}$

Output power                         $15\text{kW} - 300\text{kW}$

Gain accuracy and linearity    10 ppm stability class

Switching frequency               $> 180\text{ kHz}$  effective  
 Switching frequency ripple       $< 3\text{ V}_{\text{rms}}$  differential  
 Bandwidth                             $> 10\text{ kHz}$  (-3dB)

Output noise current:  
 0,1...10Hz                             $< 500 \dots 200\ \mu\text{Arms}$  linearly descending  
 10...10kHz                             $< 200\ \mu\text{Arms}$

DC-offset current                   $< 10\text{ mA}$ , including self heating and ambient temperature effects, adjustable to zero

Total Harmonic Distortion       $< 0.25\% @ 1\text{kHz}, 200\text{ Arms}$

## Control and monitoring



Input sensitivity 1/25-300 V/A Factory set, user definable  
Signal input impedance 30 k $\Omega$

Current monitor 1/150 V/A BNC-connector at cover  
Voltage monitor 1/50 V/V BNC-connector at cover

Fault protection:  
(Shutdown due to)

- Overcurrent
- Overvoltage
- Overheat
- Overload
- Low DC voltage
- Internal voltages out of tolerance
- IGBT failure
- Software failure

Precision Magnet  
Power Supply

Tuning to load and diagnostics are done with PC based program. Communication port mini-USB.

---

## System specifications

Input voltage 3-phase 400/480 Vph-ph, 50/60 Hz

Environmental requirements:

Ambient temperature 10 °C to 30 °C  
Ambient humidity 30 to 70 % non-condensing  
Storage temperature -20 °C to +85 °C  
Cooling Air cooling (front in, rear out)  
Zero heat load to ambient Optional water cooled elements

Single cabinet dimensions:

Height 1800/2000 mm  
Width 600 mm  
Depth 900 mm  
Weight 650 kg

Configuration examples:

Single cabinet up to 50 kW  
Two cabinets up to 100 kW  
Multiple cabinets up to 300 kW

---

## Regulatory

Designed to meet EN 61010, UL 61010  
CE marked



Part of Nodica Group

IECO designs and manufactures precision and high-fidelity amplifiers and power supplies to wide range of demanding applications.

IECO provides subsystems and precision instruments for the global health care, scientific and industrial markets. Our products can be found in medical imaging systems, cancer treatment systems, beam guidance, and in different demanding industrial uses.

With over 40 years of experience in power electronics, IECO provides solutions for even the most challenging requirements. IECO's quality system is ISO 9001 and ISO 13485 certified.

**International Electric Company Oy**

Sahaajankatu 48  
00880 Helsinki, Finland

+358 (0)9 759 4470

[info@ieco.fi](mailto:info@ieco.fi)

[www.ieco.fi](http://www.ieco.fi)